PROSPECTS AND CHALLENGES IN THE CONSUMPTION OF ECO-FRIENDLY PRODUCTS – A CASE STUDY OF DHANBAD BLOCK OF DHANBAD DISTRICT (JHARKHAND)

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INTRODUCTION

In the last few decades, we have seen rapid technological advancement in each and every field, coupled with explosive increase of world population. The population explosion is concentrated mostly in the developing countries. The push for economic improvement in the developing nations has led to large scale industrialization and dense urbanization. Along with this, the changing life style and consumption pattern also adds to the never-ending strain on the limited resources of our planet. This over exploitation of our non - renewable natural resources, has now created for us serious environmental concerns such as global warming, ozone depletion, pollution, climate change, ground water depletion, loss of biodiversity, frequent natural disasters and more.

Suffice to say that mankind has failed to strike a balance between a material advancement and health of the planet. The mindless push for development has failed to fulfill the criteria of sustainability. Since the problem is anthropogenic, the responsibility to solve the issue and rectify the mistakes also lies on us, humans, environmentalists, researchers, policy makers and economists across the globe strive to figure out the most feasible plans for sustainable development.

These efforts, however, cannot yield results unless the awareness is reflected in the consumption behaviour of the masses. Thus, the consumers must change their living style from non-eco-friendly to eco- friendly (**Kong et al 2014).** Eco-

friendly goods are produced in such a way that it consumes minimum energy, protect and improve the environmental qualities and do not add pollutants to the environment **(Ottaman et al 2006)**. In comparison with non-eco-friendly, green products are non -accumulating, easily renewable, recyclable, and having least adverse impact on environment. **(Dangelico and Pontrandolfo 2010).** Eco friendly products are risk free for the environment and also giving a quality and standard to the environment and society.

The effect of non-eco-friendly products on environment:

Non-eco-friendly materials like plastic, synthetic rubber, thermocol, synthetic polymers are non-biodegradable. These substances accumulate in our environment and in long run creates havoc for sustainability. Recycle values of these products are also very low. These products are not only harmful for human beings but also for other living being and abiotic components of the environment. These are directly responsible for water and soil pollution. Burning of these substances produces very harmful gases like carbon di oxide, carbon monoxide, oxides of sulphur, oxides of nitrogen, etc. which causes many health issues in living organism.

Eco- friendly products used in India since ancient times:

During industrialization and the rat-race for modernization, the world paid little mind to the effects of uncontrolled development. It wasn't until the recent decades that environmental concerns were seriously raised and actively discussed on international forums. However, in India, we have slightly different ways, owing to our traditional approach towards nature. Our ancient scriptures place importance on balanced actions. Nature is a subject of reverence to us.

Our forefathers used eco-friendly products such as comb made of wood, silver, gold etc., toothbrush called *datun*, bed, mats, earthen pots and cookwares like *ghada*, *surahi*, earthen *kadahi*, *handi*, *kulhad* etc., disposable plates made of leaves named *pattal*, *dona*, cleaning tools such as brooms made of natural grass, jute bags, ropes, packing materials, carpets etc. bamboo baskets, musical instruments, utensils, construction materials and many more.

Importance of eco-friendly products:

- It protects environment and ecosystem.
- It prevents pollution, prevents degradation of the quality of abiotic components like water, soil, air of the ecosystem.
- It is good for health and reduces health issues.
- Many eco-friendly products have medicinal properties. For example, products made from *Neem* have anti-bacterial properties.
- It does not cause harm to other living beings as opposed to the non-eco-friendly substances like plastics, rubber, synthetic fibers etc. Thus, it protects our biodiversity.
- It has religious and cultural importance. It connects us to our culture and tradition.
- Demand for many plant-based products encourages plantation and afforestation.
- Eco-friendly products are biodegradable so they do not create harmful wastes.
- It reduces carbon footprint in manufacturing and other activities.
- It generates employment for local people like potters, farmers and other cottage-industry workers.
- It is a much-needed alternative for harmful non-ecofriendly substances.
- It is necessary for sustainable development, that is, fulfilling present generation's need without hampering the interest of our future generation.

Challenges in the use of eco-friendly products:

- Eco-friendly products are expensive in comparison to other non-eco-friendly alternatives, due to the production cost and labor.
- Their availability is limited. The market of eco-friendly products does not reach to all parts of the country. Moreover, many items that we might need in eco-friendly versions, may not be available.
- Sometimes eco-friendly alternatives are not as much convenient to use as other non-eco-friendly are.

- Sometimes, their quality is not satisfactory. Consumers would prefer them only if the quality of the eco-friendly goods matches that of their non-eco-friendly counterparts.
- Brand image of the product also impacts green purchase. Many locally made green products cannot compete with branded products.
- Eco-friendly products that use the limited natural resources (such as wood, metals, etc.) present us with the task of proportionate and periodic replacement of those natural resources. For example, trees must be planted to compensate for the wooden products, metal products must be recycled and so on.

Eco-friendly products available in Dhanbad:

Dhanbad is one of the 24 districts of Jharkhand. It is one of the most developed districts of the state. Still, it is firmly rooted in tradition and culture. It has deep connection with nature. We find that many eco-friendly products are in use here for example datun of neem, babul, bamboo baskets, show piece, construction materials and,utencils of bamboo, clay pots, gamla, earthen cookwares, jute bags, carpet , wooden utencils, furnitures, disposable cup, plates, made of leaves, papers and other plant products.

As we know from previous discussion that eco- friendly products are biodegradable, and recyclable therefore these are non -accumulating in nature. Disposal of these substances do not create any harmful byproducts. Use of eco-friendly alternatives will help us achieve our dream of sustainable development.

Area of study:

There are 24 districts in Jharkhand. Dhanbad district is one of them, situated in north-east of Jharkhand, having 2886 square kilometer area. Dhanbad district was constituted on 26th October 1956. According to 2011 census data, total population of Dhanbad district is 2846954, of which 1498305 are male and

1348649 are female. Dhanbad has the second highest population after Ranchi. Dhanbad district has 10 blocks: Dhanbad, Baghmara, Nirsa, Topchanchi, Tundi, Purbi Tundi, Govindpur, Baliapur, Jharia, Putki, Egyarkund, Kaliosol.

Dhanbad CD block is one of the ten blocks of Dhanbad district. It is an administrative division under Dhanbad district of Jharkhand state. It has an area of 64.2 square kilometer and elevation 235 meter from sea level. Dhanbad CD block is located at 23° 48' 7" N, 86° 26' 36" E. It is surrounded by Govindpur from the north, Baliapur from the east, Jharia and Chandankiyari of Bokaro district from the south and Baghmara from the west. Dhanbad block has 67-gram panchayats and 85 villages. Dhanbad. Dhansar, Saraidhela, Putki, Kenduadih, Loyabad, Jogta and Bank more police stations fall under this block. According to 2011 census data Dhanbad block has a population of 58884 out of which 53% is male and 47% is female and population density of 920 per square kilometer. The literacy rate of Dhanbad block is 78.47% out of which 88.63% is male literacy and 67.09% is female literacy.

Source: www.researchgate.net

STATEMENT OF THE PROBLEM

Today our world is facing many environmental hazards and environmental degradation. During the course of rapid industrialization and modernization many non-biodegradable pollutants substances are accumulating in the atmosphere. Plastic carry bags, use and throw cup, plate made of plastic and

thermocol, plastic baskets, show pieces, water bottle and many more things are non-eco-friendly and get accumulated in aur nature. There are many alternatives available in the market which are eco-friendly, biodegradable and non- accumulating in nature. Cloth carrybags, use-and-throw cups and plates made of recycled paper, sugarcane residues or leaves, bamboo baskets etc.

Plastic, synthetic polymers, rubber and other non-biodegradable substances are non-eco-friendly and harmful for environment still these substances are very much in use on the other hand eco-friendly products are the needs of today and good for environment, still these substances are not very much in use.

In this study I am going to explore the challenges in using eco-friendly products. Whether people are aware about the availability and essentiality of eco-friendly products or not. If they are aware then why they are not adopting these items. Also, what are the prospects of eco-friendly products in the market.

REVIEW OF LITERATURE (STATE OF THE ART)

Tanner and Kast (2003) studied the Swiss consumers. They concluded that green buying behaviour is positively related to pro environmental concerns, favourable attitude for fair trade and local goods. Information and knowledge about the product also facilitate the purchase of eco-friendly product. However, green consumption behaviour is negative affected by consumer's time-saving attitude and shopping from supermarket. Others factors like test, green label, price, living standard, profession, lifestyle etc., are not usually relevant.

Study of **Dursun et al (2016)** is based on the sample of highly educated 271 consumers of Turkey. It revealed that environmental concern and health safety concern had significant effect on eco-friendly purchasing

Adhitiya and Astuti (2019) explored the eco-friendly consumption behaviour of Indonesian consumers. They found that only social value has encouraging effect on green consumption behaviour. Functional value like cost of purchase (price) and physical performances (quality), effect on environment, emotional pleasure while using the product, conditional usefulness, knowledge and information about the product etc. have no influence on green buying behaviour of the consumers.

Adrita (2019) studied the consumer behaviour in Bangladesh. The study focused on the actual buying attitude of consumers towards green products as examined in the light of their exposure to information, the cost as well as the availability. All these factors were found to be impactful, especially accessibility and awareness (information).

After studying the green purchasing behaviour of educated and young 638 respondent of Bangladesh, **Nekmahmud et al (2020)** concluded that consumer's concern about environment, and perceived satisfaction and benefit from the product plays positive role in green purchase decision. They are more willing to pay for green products than non-green products, but on the other hand they are not satisfied with the product quality. Which discourages them from green purchase.

German et al (2022) studied 400 respondents of Philippines during COVID period. Study revealed that environmental concern is a significant factor which influence pro-environmental behaviour of the consumers.

Aggarwal and Balasubramanian (2023) conducted a study which suggests that spiritual philosophy, moral values and conscious connection and awareness for the environment have a positive impact on the reception of green products by the consumers. This is to say, that the consumers who associate

ethical and theological ‘correctness’ with organic products are more likely to make green choices.

The findings of ***Alam et al. (2023)*** also support that the awareness of moral responsibility towards the environment and eco-friendly mindset have a linearly positive influence on a consumer’s green behaviour. This study also concluded that societal influence does not impact eco-friendly behaviour of the consumer.

Study of **Arun Kumar and Mrinalini Pandey (2023**) on 362 young consumers of India concluded that, consumer’s concern for environment, which is called Altruistic Motivation and concern for health, which is called Egoistic Motivation play a significant positive role in consumer’s green purchase behaviour. Social media inculcate motivation among consumers towards green consumption. Subjective norms like people’s perception also influence this.

Bautista, Palmiano and Reyes (2023) conducted this study on the Filipino buyers to analyse the difference in the green purchasing attitude of two generations. Their findings suggest that for the old generation (X), the most significant factor to influence their purchase behaviour was cost-sensitivity, while for the new generation (Z), the cost and the environment-friendliness both are important, amongst other factors.

Firdausi and Dharmmesta (2023) studied the consumer’s tendency to switch from previously used cosmetics to eco-friendly cosmetics. Their findings suggest that attraction of new cosmetics in the market (pull factor) sways the consumers in favour of eco-friendly products more strongly than the dissatisfaction from regular products (push factor).

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PROBLEM TO BE INVESTIGATED (RESEARCH GAP)

Many studies have undertaken to understand the attitude of consumer towards purchase of green products. Studies show that there is a gap between

supportive buying attitude and real buying behaviour **(Munerah et al2021).** There is a green attitude behaviour gap or inconsistency in eco-friendly purchase **(Weal and Hinton 2007).** It is observed that though consumers are aware of environmental issues, their actual purchase behaviour does not turn eco- friendly **(Poco and Reposo 2009).**

Researchers have tried to ascertain the reason behind this gap but a specific cause is yet to be pinpointed **(Kumar et al 2019), (Panda et al 2020).** Studies are generally anomalous in their results **(Nguyen et al 2017), (Sharma and Foropon 2019). Koller (2011) and Sharma (2021)** noticed that eco-friendly purchase behaviour is changing with time. Therefore, comprehensive research is required to understand and explore the factors affecting eco-friendly purchase behaviour.

The study area of this research are the urban areas of Dhanbad. After going through several studies, it was apparent to me that no such study had been undertaken for Dhanbad. Thus, my research will be focused in exploring and examining the challenges in using eco-friendly product before consumers of Dhanbad.

OBJECTIVES OF THE RESEARCH

1. To study the consumer's attitude for the eco-friendly products.
2. To study the socio-economic challenges influencing the consumer's buying behaviour of eco-friendly products.
3. To study the impact of economic factor (price of the product) on green purchase behaviour.
4. To examine the impact of functional aspects (availability, user-friendliness, quality) of the products on green purchase behaviour.
5. To examine the impact of demographic aspects of population on green purchase behaviour.
6. To study the prospect of eco-friendly products.

HYPOTHESIS

1. Consumers are indifferent towards eco-friendly products.
2. Socio-economic factors influence consumer's buying behaviour towards eco-friendly products.
3. Economic factor (price of the product) has negative impact on green purchase behaviour.
4. Good functional attributes of the products positively influence green purchase behaviour.
5. Different age groups and genders have differences in their green purchase behaviour.
6. The prospect of eco-friendly products is bright.

RESEARCH QUESTIONS

1. What is the attitude of a consumer towards consumption of eco-friendly products?
2. Whether socio-economic factors influence consumer's buying behavior of eco-friendly products or not?
3. What are the effects of economic factors on green purchase behaviour of the consumers?
4. To what extent the functional aspects of a green product affect the green purchase behaviour?
5. Whether demographic aspects of population influence consumer's green purchase behaviour or not?
6. What is the prospect of eco-friendly products?

RESEARCH DESIGN AND METHODOLOGY

Types of research:

This research will be qualitative as well as quantitative study. More specifically it will be explanatory, and analytical.

Sources of data collection:

Both primary data and secondary data will be collected and used for this research work. Primary data will be collected from randomly selected respondents / consumers, shopkeepers etc. of Dhanbad area. Secondary data will be collected from books, journals, newspapers, magazines and other online source.

Sample, sample size and sampling method:

200 sample unit will be chosen for the study. Adult, rational and economically capable buyers of Dhanbad will be taken as sample. Non probability and judgmental sampling method will be used to collect sample.

Product identification:

Non-durable and semi-durable, eco-friendly consumption goods will be identified as eco-friendly or green products in this study. Eco- friendly single use cup, plate, glass, packaging material (non- durable) and eco- friendly bottle, box, carry bag, show piece, basket (semi durable) will be considered as green product in this study.

Variables to be used to achieve research objectives:

Objectives of the Study		***Variables***
1.	To study the consumers attitude for the eco-friendly products	• Preference (for green product) • Habit • Price sensitivity • Environmental consciousness • Knowledge of the product
2.	To study the socio- economic challenges influencing the consumers buying behaviour of eco-friendly product.	• Life style/living standard • Social influence/affiliation • Income • Occupation • Education
3.	To study the effect of economic	

	factors on green purchase behaviour.	• Price of the product
4.	To examine the impact of functional aspects of the product on green purchase behaviour.	• Availability of the product • User- friendliness of the product • Quality of the product
5.	To examine the impact of demographic aspects of population on green purchase behaviour.	• Age • Gender
6.	To study the prospect of the eco-friendly products,	• Need based production • Affordability of the product • Improvement in quality • Improvement in functional aspect • Accessibility and availability

TOOLS TO BE USED IN THE COLLECTION OF DATA AND ANALYSIS

Tools of data collection:

Occasional observation and interview method will be used. For interview I will use pre structured, open and closed ended questionnaires. Data will be collected through personal, mailed, and telephonic interview.

Tools for data presentation:

Pie chart, bar diagram, tables, pictures will be used for data presentation.

Tools for data analysis:

Statistical tools like mean, median, mode, percentage, ratio, etc. will be used for data analysis. Suitable testing tools, for example Chi–Square test, will be used for hypothesis testing.

SIGNIFICANCE OF THE PROPOSED WORK

In this research proposal, I will study about the challenges in using eco-friendly products. As we know due to our non- eco-friendly consumption practices our environmental quality is degrading continuously. We need not to merely develop, but to develop sustainably. This study will be beneficial to chalk out the problems in the consumption of green products, to find out their solutions and furthermore to popularize these green products. Findings of this study will be imperative for producers, manufacturers, and marketers to show prospects of producing and marketing of green products. This study will promote research and innovation in this field. It will provide direction to policy makers. This research findings will be beneficial in order to switch over from non- eco-friendly consumption practices to eco-friendly consumption behaviour. This will be beneficial for human health, well-being of other living beings and sustainable survival of our atmosphere and environment.

CONTRIBUTION TO THE EXISTING KNOWLEDGE

This study will bridge the existing research gap. It will throw light on the reasons of inconsistency in the attitude of the consumer and actual green purchase behaviour. It will also explain the factors affecting green consumption. The study will contribute to our understanding of the consumption behaviour of the consumers of Dhanbad, with respect to eco-friendly products.

LIMITATIONS OF THE RESEARCH WORK

- The study will be a sample study so a sampling error might arise.
- Time and money constraints might affect primary data collection.
- The authentication of the data from respondents must be taken as face value.
- Issues of availability and authenticity may arise in secondary data collection.

FUTURE WORK

- Dhanbad is the second most populous district of Jharkhand. As such, it was suitable for consumer behaviour related study. There is, however, ample scope of similar research in other districts of Jharkhand.
- The urban and rural areas can be comparatively studied.
- This research includes non- durable and semi-durable goods. Items of these categories (apart from the ones selected for this study), and durable eco- friendly products can also be included to expand the range of research.

TENTATIVE CHAPTERIZATION

CHAPTER 1. Introduction

CHAPTER 2. Review of literature and research methodology

CHAPTER 3. Hazards due to non-eco-friendly products

CHAPTER 4. Knowledge and perception of green products.

CHAPTER 5. Challenges before eco-friendly consumption

CHAPTER 6. Future prospects of green consumption

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